Growing with the *Selaginella* are the largest plants of *Cheilanthes lanosa* I have seen. In January, 1891, our high school "Chapter" of the Agassiz Society took a tramp (nobody "hiked" in those days) of twenty miles or so and found the dead fronds. Not for ten years or more was the fern found in two other places miles away.

After all this gloomy writing I feel but little better, even though I know that it is not my fault that all of these things have happened. If there is any moral at all to this, it is that we should think at least twice before we destroy a rare plant by collecting it in quantity. The Society should have for one of its objects the protection of our ferns. By giving too much encouragement to collecting and exchanging it can too easily become a Society for the Prevention of the Wild.

WASHINGTON, D. C.

ASPLENIUM GRAVESII IN PENNSYLVANIA.—While engaged in the study of the soil reactions of rock ferns the writer went through the herbarium of Mr. Harold W. Pretz of Allentown, Pennsylvania, to obtain data on rare species there included. Among specimens of *Asplenium pinnatifidum* which had been collected in a ravine along the lower Susquehanna River, just below Fites Eddy, Lancaster County, Pa., on August 31, 1913, there were found to be several showing a gradation in their features toward *A. Bradleyi*. They appeared to correspond to the description of the hybrid between these two species named *A. gravesii* by Mr. W. R. Maxon about two years ago[1]; and on comparison with the type of the latter plant in the National Herbarium, complete identity was established.

The sheets of *Asplenium pinnatifidum* and *A. Bradleyi* from the lower Susquehanna region in the herbarium

[1] Am. Fern Journ. 8: 1. 1918.

of the Academy of Natural Sciences of Philadelphia were then examined, and at least six specimens agreeing more or less definitely with this hybrid were found to be there included. They came from McCall's Ferry, Cully and Muddy Run, in Lancaster County, and from York Furnace in York County, across the river. These localities all lie in an area less than 20 kilometers long by 3 km. wide. It is noteworthy that both parents of the hybrid are present at all of the places just listed; and although *A. Bradleyi* was not observed by Mr. Pretz at the locality from which his specimens came, it grows in the general vicinity.

The chief features on which the identification of this hybrid were based are tabulated here, with the corresponding data for the parent species.

TABLE 1. COMPARISON OF THE FEATURES OF THREE ASPLENIUMS

	A. pinnatifidum	*A. gravesii*	*A. Bradleyi*
Stipe	green, often brown below	brown, rarely green above	brown throughout its length
Frond	pinnatifid to pinnate	pinnate, pinnatifid above	pinnate throughout
Rachis	broad, green	fairly broad, green; often brown below	narrow; lower half brown, upper half green
Margin	crenulate	crenate-dentate	serrate
Texture	thick	medium	thin
Sori	pale brown	dark brown	dark brown

In spite of a rather considerable variability of the above three ferns, the hybrid can be readily recognized in practically every case, the dark brown sori, brown stipe, and intermediate degree of cutting of the margin being the most striking features.

Tests made upon the soil adhering to the roots of *A. gravesii* in several of the herbarium specimens mentioned and subsequently at the actual localities (visited in July 1920), have shown the specific acidity of 100 to 300 in every case. It is noteworthy that these values are

the same as characterize the two parents, showing that, as in another instance mentioned in the writer's recent paper on rock ferns in this journal, the hybrid does not differ from the parents in soil preference.—EDGAR T. WHERRY, WASHINGTON, D. C.

Recent Fern Literature.

Glandular hairs are not infrequent on the outside of ferns, as of other plants, but it is probably news to most of us that they occur also inside. Dr. Theodor Holm has described and illustrated[1] such hairs which he found in the leaf-tissue of certain species of Dryopteris. If a cross-section of a leaf in these species be examined under the microscope, the tissue is found to be much more compact near the upper and lower surfaces. The cells there are closely contiguous; in the central part of the leaf, however, there are occasional air-spaces between them. In these spaces the glandular hairs are found. DeBary had long ago discovered such hairs in the ducts of the root-stock and the lower part of the petiole in *Dryopteris Filix-mas* and *D. spinulosa*, but they seem not to have been hitherto observed in the leaf. Dr. Holm found them in *D. Filix-mas*, *D. marginalis*, *D. spinulosa* and *D. cristata*, but not in *D. Thelypteris* nor *D. noveboracensis*, nor in representatives of seven other genera of our North American ferns which he examined. Nor are they known from any other plants whatsoever. Internal hairs have been noted in Pilularia and in four families of flowering plants, but in these cases they are not glandular.

Dr. Holm points out that the presence of these singular structures in certain species of the genus Dryopteris, as at present defined, and not in others, tends to confirm

[1] Holm, Theo. Internal glandular hairs in Dryopteris. Rhodora 22: 89–91, figs. 1 and 2. May, 1920.